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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
STACE, BRENT S	
ART UNIT	**PAPER NUMBER**
2161	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,821	FORMAN, GEORGE H.	
	Examiner	Art Unit	
	Brent S. Stace	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☒ Claim(s) *5,7,8 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. Claims 1-30 have been examined. Claims 1-30 have been rejected. This document is the first Office action on the merits.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 5, 7, 8, and 17 are objected to because of the following informalities:

a. Claim 5 recites "...for each of said third members, said each said time-of-first-known-fraud and said predetermined time frame..." on lines 1-3. This appears to be a group of 3 objects in a list in the claim. This appears to be a grammatical error since commas do not separate the elements in the list.

b. Claim 7 recites "of a selected on of said first" on line 5. This is poor sentence structure. This objection propagates downward through dependant Claim 8.

c. Claim 17 recites "a separate second member tally" on lines 11-12. This claim implies more than one tally by designating the tally as separate. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 24 recites "256^{n}" it is undefined in the specification what n is (e.g. integer value).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 recites "256^{n}" it is unclear what the limits of n are.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,094,643 (Anderson et al.).

10. **Claim 17** can be mapped to Anderson as follows: "A data storage and data mining process for determining at least one probable point-of-compromise for members of a data set, [Anderson, col. 5, lines 24-38] the process comprising:

- in a set of data files, [Anderson, col. 7, lines 2-14] logging every individual transaction between first members and second members, [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 54-65] wherein said first members are subject to compromise [Anderson, col. 6, lines 2-6] and said second members are each a potential point-of-compromise; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]
- from a given set of compromised first members, [Anderson, col. 8, lines 45-60] segregating a subset of the data files for a predetermined time period past wherein said subset has at least one of said first members logged therein; [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65]
- for each of said second members in said subset, incrementing a separate second member tally for each said individual transaction associated with each one of said compromised first members, creating a set of tallies associated with each of

said second members; [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65] and

- organizing said set of tallies according to a predetermined scoring statistic associated with probability of point-of-compromise" [Anderson, col. 8, lines 40-60 with Anderson, col. 9, lines 54-65].

11. **Claim 18** encompasses substantially the same scope of the invention as that of Claim 17, in addition to a system and some means for performing the method/process steps of Claim 17. Therefore, Claim 18 is rejected for the same reasons as stated above with respect to Claim 17. Additionally, Claim 18 recites the following means also mapped to Anderson: "...means for storing data files" [Anderson, col. 7, lines 2-14].

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 1-3, 9-11, 13, 15, 16, 19, 20, 21, 25, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.).

14. **Claim 1** can be mapped to Anderson as follows: "A method for predicting potential points-of-compromise, [Anderson, col. 5, lines 24-38] the method comprising:

- ...correlating each first member of a first set, wherein each of said first members may be compromised in time, [Anderson, col. 6, lines 2-6] with each second member of a second set, wherein each of said second members may be a potential point-of compromise; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]...
- from a given third set of third members, wherein each of said third members is a given compromised first member, from said database, [Anderson, col. 8, lines 45-60] selecting each interaction associating said third members and said second members; [Anderson, col. 8, lines 45-60]
- calculating an interaction factor for each of said third members from each said interaction; [Anderson, col. 9, lines 12-15] and
- predicting at least one potential point-of-compromise from results of said calculating" [Anderson, col. 6, lines 1-30 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "...storing a database
- ...recording in said database each interaction of a first member with a second member."

With respect to Claim 1, Anderson, teaches:

- "...storing a database [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5]

- ...recording in said database each interaction of a first member with a second member" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases, however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

15. **Claim 2** can be mapped to Anderson as follows: "The method as set forth in claim 1 said selecting further comprising:

- for each of said third members, including each said interaction found for a predetermined past time period" [Anderson, col. 8, lines 45-60].

16. **Claim 3** can be mapped to Anderson as follows: "The method as set forth in claim 2 wherein each said predetermined past time period is determined individually from a given time-of-first-know-fraud for each of said third members" [Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52].

17. **Claim 9** can be mapped to Anderson as follows: "The method as set forth in claim 1, said predicting further comprising:

- listing all second members associated in said selecting as a potential point-of-compromise with a score based upon a tally of interactions between said third members and said second members" [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65].

18. **Claim 10** can be mapped to Anderson as follows: "The method as set forth in claim 9, said predicting further comprising:

- adjusting each said score by a common factor associated with each said second member associated in said selecting wherein all scores are normalized" [Anderson, col. 7, lines 2-14].

19. **Claim 11** can be mapped to Anderson as follows: "A method for identifying possible points-of-compromise, [Anderson, col. 5, lines 24-38] the method comprising:

- ...correlating a plurality of at least two identifiers; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]
- ...from a given set of first specific identifiers, extracting from said matrix all interactivities with second identifiers for said set; [Anderson, col. 8, lines 45-60]
- tabulating extracted said interactivities according to frequency of said interactivities; [Anderson, col. 9, lines 12-15 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65] and
- assigning a point-of-compromise score to each of said first identifiers wherein each said score is indicative of frequency of the extracted interactivities"

[Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "...creating a matrix
- ...logging in said matrix every interactivity involving individual ones of each of said two identifiers."

With respect to Claim 11, Anderson, teaches:

- "...creating a matrix" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5]
- ...logging in said matrix every interactivity involving individual ones of each of said two identifiers" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases (a matrix), however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

20. **Claim 13** can be mapped to Anderson as follows: "The method as set forth in claim 11 further comprising:

- limiting said extracting to a predetermined past time frame" [Anderson, col. 8, lines 45-60].

21. **Claim 15** can be mapped to Anderson as follows: "The method as set forth in claim 11 wherein each said interactivity is a data pair further comprising a fixed first identifier representative of a compromised identifier and an interactivity situation identifier" [Anderson, col. 7, lines 10-15 with Anderson, col. 8, lines 40-60].

22. **Claim 16** can be mapped to Anderson as follows: "The method as set forth in claim 15 wherein one particular interactivity identifier comprises one or more potential point-of-compromise identifiers" [Anderson, col. 6, lines 24-30 with Anderson, col. 9, lines 54-65].

23. **Claim 19** can be mapped to Anderson as follows: "A method of determining credit card fraud point-of-compromise scores, [Anderson, col. 5, lines 24-38 with Anderson, col. 6, lines 10-30] the method comprising:

- correlating all issued credit cards with all authorized points-of-use such that every transaction involving use of a credit card is retrievably...; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]
- from a given set of compromised credit cards, [Anderson, col. 8, lines 45-60] extracting from said database all transactions involving use of each of said compromised credit cards; [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65]

- for each of said authorized points-of-use involved in at least one of said transactions involving at least one of said compromised credit card, creating a tally of said transactions for each point-of-use, incrementing each said tally for each occurrence of transaction involving at least one of said compromised credit cards; [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65]
- sorting said authorized points-of-use having a tally according to tally score; [Anderson, col. 8, lines 45-60] and
- assigning a score representative of point-of-compromise likelihood to each of said authorized points-of-use having a tally according to said tally score" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "...logged in a database."

With respect to Claim 11, Anderson, teaches:

- "...logged in a database" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases, however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

24. **Claim 20** can be mapped to Anderson as follows: "The method as set forth in claim 19 wherein said extracting is limited to a predetermined time period range of past transactions" [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65].

25. **Claim 21** can be mapped to Anderson as follows: "The method as set forth in claim 19 wherein each said tally score is normalized via a characteristic related to point-of-use" [Anderson, col. 7, lines 2-14 with Anderson, col. 7, lines 25-31].

26. **Claim 25** can be mapped to Anderson as follows: "The method as set forth in claim 20 wherein said predetermined time period range of past transactions is based upon a given suspected time-of-compromise window prior to a time-of-first-known-fraud for each said credit card" [Anderson, col. 9, lines 1-12 with Anderson, col. 6, lines 2-6 with Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52].

27. **Claim 28** can be mapped to Anderson as follows: "A method of doing business comprising:

- receiving a set of credit card numbers and a set of merchants authorized to accept said credit cards; [Anderson, col. 5, lines 16-21 with Anderson, col. 5, lines 45-53 with Anderson, col. 7, lines 10-14 with Anderson, col. 7, lines 25-31 with Anderson, col. 8, lines 35-38]...

- from a given set of compromised credit card numbers, extracting therefor over a predetermined given time period, each related said data point of said matrix; [Anderson, col. 8, lines 45-60 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65]
- incrementing a tally for each merchant associated with each related said data point; [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65]
- sorting said merchants by tally score; [Anderson, col. 8, lines 40-60] and
- assigning a probability of point-of-compromise for said list of compromised credit card numbers based on said tally score" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "...forming a matrix of said numbers and said merchants
- logging each use of a card with a merchant as a predetermined data point of said matrix."

With respect to Claim 28, Anderson, teaches:

- "...forming a matrix of said numbers and said merchants" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5 with Anderson, col. 8, lines 45-60]

- logging each use of a card with a merchant as a predetermined data point of said matrix" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases (a matrix), however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

28. **Claim 29** can be mapped to Anderson as follows: "A computer memory [Anderson, col. 5, lines 21-27 with Anderson, col. 7, lines 16-19] comprising:

- computer code for...wherein members of a first class are associated with members of a second class in accordance with each interaction of a member of the first class with a member of the second class; [Anderson, col. 6, lines 2-6 with Anderson, col. 9-10, lines 53-5 with Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38]
- computer code for extracting from said database only those interactions for a predetermined past time period associated with a given subset of members of the first class wherein said given subset represents individual compromised

members of said first class; [Anderson, col. 8, lines 40-60 with Anderson, col. 9, lines 54-65] and

- computer code for assigning a score to individual members of the second class for each of said interactions extracted wherein said score represents a point-of-compromise probability for each of said individual members of the second class" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "...compiling a database"

With respect to Claim 29, Anderson, teaches:

- "...compiling a database" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases, however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

29. Claims 4-7, 12, 14, 22, 23, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.) in view of U.S. Patent No. 5,937,406 (Balabine et al.).

30. For **Claim 4**, Anderson teaches: "The method as set forth in claim 3 wherein said storing and said recording further comprises:

- ...characterized by a predetermined time frame bounding interactions" [Anderson, col. 5, lines 47-52 with Anderson, col. 6, lines 2-6].

Anderson discloses the above limitation but does not expressly teach:

- "...dividing said database into a plurality of separately retrievable files wherein each of said files is...between said first members and said second members."

With respect to Claim 4, an analogous art, Balabine, teaches:

- "...dividing said database into a plurality of separately retrievable files wherein each of said files is...between said first members and said second members" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 50-56, with Balabine, col. 8, lines 23-26].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the

storage and recording of this database is divided into files based on a time frame. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

31. **Claim 5** can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 4 wherein for each of said third members said each said time-of-first-known-fraud and said predetermined time frame is used to filter out those separately retrievable files not within said predetermined past time period from said selecting" [Anderson, col. 5, lines 16-21 with Anderson, col. 8, lines 45-60 with Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52 with Anderson, col. 5, lines 47-52 with Anderson, col. 6, lines 2-6].

32. **Claim 6** can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 4 wherein said separately retrievable files are created using identifier features of said second members suited to maximizing data compression" [Balabine, col. 7, lines 35-40 with Balabine, cols. 7-8, lines 55-2 with Balabine, Figs. 5A-5C with Balabine, col. 8, lines 23-26].

33. For **Claim 7**, Anderson teaches: "The method as set forth in claim 1, said storing further comprising."

Anderson discloses the above limitation but does not expressly teach:

- "...segregating correlated first members and second members into a plurality of data files wherein said files are identifiable via a predetermined common characteristic of at least one predetermined particular characteristic of a selected on of said first members or said second members."

With respect to Claim 7, an analogous art, Balabine, teaches:

- "...segregating correlated first members and second members into a plurality of data files wherein said files are identifiable via a predetermined common characteristic of at least one predetermined particular characteristic of a selected on of said first members or said second members" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 8, lines 23-26 with Balabine, col. 7, lines 35-40 with Balabine, cols. 7-8, lines 50-2 with Balabine, Figs. 5A-5C].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the

storage and recording of this database is divided into files based on a time frame. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

34. For **Claim 12**, Anderson teaches: "The method as set forth in claim 11 further comprising."

Anderson discloses the above limitation but does not expressly teach:

- "...sorting said matrix into a plurality of data files such that in each of said files one of said identifiers has a predetermined unique characteristic; and
- using a given identifier having said characteristic, retrieving from one of said files associated with said characteristic, each second identifier from said matrix having at least one of said interactivities."

With respect to Claim 12, an analogous art, Balabine, teaches:

- "...sorting said matrix into a plurality of data files such that in each of said files one of said identifiers has a predetermined unique characteristic; [Balabine, col. 6, lines 40-46 with Balabine, Figs. 5A-5C with Balabine, col. 7, lines 5-9 with

Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 35-40 with Balabine, col. 7, lines 50-60] and

- using a given identifier having said characteristic, retrieving from one of said files associated with said characteristic, each second identifier from said matrix having at least one of said interactivities" [Balabine, col. 6, lines 46-65 with Anderson, col. 6, lines 2-6].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the storage and recording of this database is divided into files based on a time frame. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

35. **Claim 14** can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 12 wherein each of said files is associated with a common structure or characteristic of at least one of said identifiers" [Balabine, col. 6, lines 40-46 with Balabine, Figs. 5A-5C with Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 35-40 with Balabine, col. 7, lines 50-60].

36. For **Claim 22**, Anderson teaches: "The method as set forth in claim 19...is characterized by a given time frame bounding said transactions logged" [Anderson, col. 5, lines 47-52 with Anderson, col. 6, lines 2-6].

Anderson discloses the above limitation but does not expressly teach: "...wherein said database comprises a plurality of files wherein each of said files."

With respect to Claim 22, an analogous art, Balabine, teaches: "...wherein said database comprises a plurality of files wherein each of said files" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 50-56, with Balabine, col. 8, lines 23-26].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the

storage and recording of this database is divided into files based on a time frame. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

37. **Claim 23** can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 22 wherein each of said plurality of files is sortable by identifier data representative of subsets of credit card numbers" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 50-56, with Balabine, col. 8, lines 23-26 with Balabine, Figs. 5A-5C].

38. **Claim 26** can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 22 wherein said files comprise a matrix [Balabine, Figs. 5A-5C with Balabine, col. 7, lines 56-66] of data compressed identifier pairs wherein each of said pairs includes a credit card identifier [Anderson, col. 8, lines 35-38] and a point-of-use situation identifier" [Anderson, col. 7, lines 10-15 with Anderson, col. 8, lines 40-60].

39. **Claim 27** can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 26 wherein a first database comprises a relational data pair

relating said point-of-use situation identifier and said credit card identifier [Anderson, col. 7, lines 10-15] and a second database correlating each said point-of-use situation identifier to a physical said point-of-use" [Anderson, col. 7, lines 21-31].

40. Claims 8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.) in view of U.S. Patent No. 5,937,406 (Balabine et al.), further in view of U.S. Patent No. 6,470,345 (Doutre et al.).

41. For **Claim 8**, Anderson (as modified by Balabine) teaches: "The method as set forth in claim 7 wherein said segregating further comprises."

Anderson (as modified by Balabine) discloses the above limitation but does not expressly teach:

- "...creating two-hundred-fifty-six files."

With respect to Claim 8, an analogous art, Doutre, teaches:

- "...creating two-hundred-fifty-six files" [Doutre, col. 9, lines 13-26].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Doutre with Anderson (as modified by Balabine) because both inventions are directed towards using files and databases on computers with file systems.

Doutre's invention would have been expected to successfully work well with Anderson (as modified by Balabine)'s invention because both inventions use databases. Anderson (as modified by Balabine) discloses a system for detecting counterfeit financial card fraud comprising a database with a matching file system of files, however

Anderson (as modified by Balabine) does not expressly disclose exactly 256 files from a mapping of a database to files (or file objects). Doutre discloses the replacement of substrings in file/directory pathnames with numeric tokens comprising 256 files within a subdirectory.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the 256 file limit from Doutre and install it into the invention of Anderson (as modified by Balabine), thereby offering the obvious advantage of gaining optimal performance when referencing the files.

42. For **Claim 24**, Anderson (as modified by Balabine) teaches: "The method as set forth in claim 23."

Anderson (as modified by Balabine) discloses the above limitation but does not expressly teach:

- "...wherein said plurality of files includes 256 or 256^n files sorted by said identifier data."

With respect to Claim 24, an analogous art, Doutre, teaches:

- "...creating two- wherein said plurality of files includes 256 or 256^n files sorted by said identifier data" [Doutre, col. 9, lines 13-26].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Doutre with Anderson (as modified by Balabine) because both inventions are directed towards using files and databases on computers with file systems.

Doutre's invention would have been expected to successfully work well with Anderson (as modified by Balabine)'s invention because both inventions use databases. Anderson (as modified by Balabine) discloses a system for detecting counterfeit financial card fraud comprising a database with a matching file system of files, however Anderson (as modified by Balabine) does not expressly disclose exactly 256 files from a mapping of a database to files (or file objects). Doutre discloses the replacement of substrings in file/directory pathnames with numeric tokens comprising 256 files within a subdirectory.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the 256 file limit from Doutre and install it into the invention of Anderson (as modified by Balabine), thereby offering the obvious advantage of gaining optimal performance when referencing the files.

43. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.) in view of U.S. Patent No. 5,937,406 (Balabine et al.), further in view of U.S. Patent No. 5,404,507 (Bohm et al.).

44. For **Claim 30**, Anderson teaches: "...of interactivity events between items-of-use, each having a unique first identifier, [Anderson, col. 8, lines 35-38] and points-of-use, each having a unique second identifier, [Anderson, col. 8, lines 49-67] and a set of compromised said items-of-use, [Anderson, col. 5, lines 24-27]..., each of said files covering a given time frame for said interactivity events, [Anderson, col. 5, lines 47-52

with Anderson, col. 6, lines 2-6] a method for point-of-compromise scoring [Anderson, col. 5, lines 24-38 with Anderson, col. 6, lines 10-30] comprising:

- determining a time-of-first-known-fraud for each said compromised said items-of-use; [Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52]
- for each said compromised said items-of-use, assigning a suspected date window prior to said time-of-first-known-fraud; [Anderson, col. 9, lines 1-12 with Anderson, col. 6, lines 2-6 with Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52]
- selecting those ones of said files included in said suspected date window wherein said compromised said items-of-use are included in said files; [Anderson, col. 8, lines 45-60 with Anderson, col. 5, lines 16-21]
- for each selected file and for each compromised said items-of-use, counting the number of said interactivity events for each of said points-of-use in each said selected file" [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65].

Anderson discloses the above limitations but does not expressly teach:

- "Given a computerized matrix
- ...wherein said matrix further comprises a plurality of files."

With respect to Claim 30, Anderson, teaches:

- "Given a computerized matrix..." [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

With respect to Claim 30, an analogous art, Balabine, teaches:

- "...wherein said matrix further comprises a plurality of files" [Balabine, col. 6, lines 40-46 with Balabine, Figs. 5A-5C with Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 35-40 with Balabine, col. 7, lines 50-60].

With respect to Claim 30, an analogous art, Bohm, teaches:

- "...assigning the highest score indicative of point-of-compromise to a highest scoring one of said points-of-use" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65 with Bohm, col. 8, lines 1-5].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine and Bohm with Anderson because the inventions are directed towards using files and databases on computers with file systems.

Balabine's and Bohm's inventions would have been expected to successfully work well with Anderson's invention because the inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the storage and recording of this database is divided into files based on a time frame or assigning highest scores. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications. Bohm discloses an apparatus and method for finding records in a database by formulating a query using

equivalent terms which correspond to terms in the input query comprising highest valued candidates.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and the highest values (scores) of Bohm and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries, and obtaining the highest possible point-of-compromise given the scores for the time being examined.

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases (a matrix), however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

Conclusion

45. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is advised that, although not used in the rejections above, prior art cited on the PTO-892 form and not relied upon is considered materially relevant to the applicant's claimed invention and/or portions of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brent Stace

SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

BG